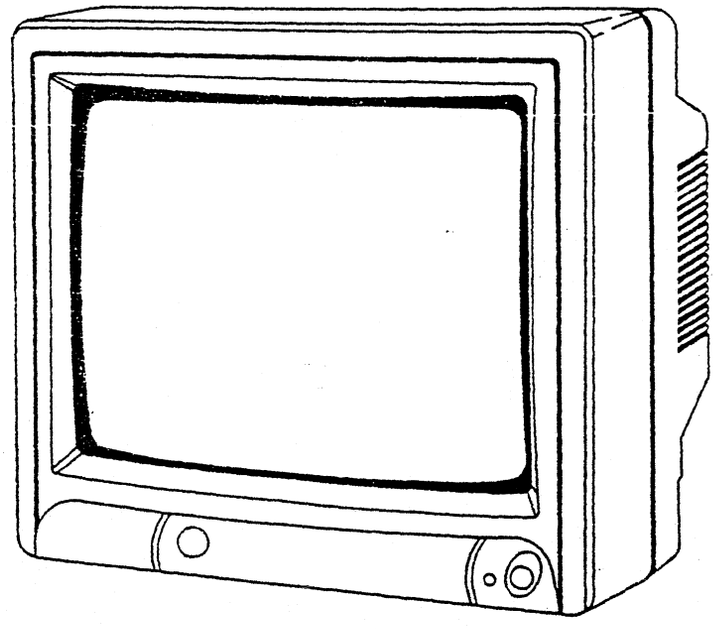
INTV - 00047

# Service Manual

## 10 INCH COLOUR TV + MONITOR

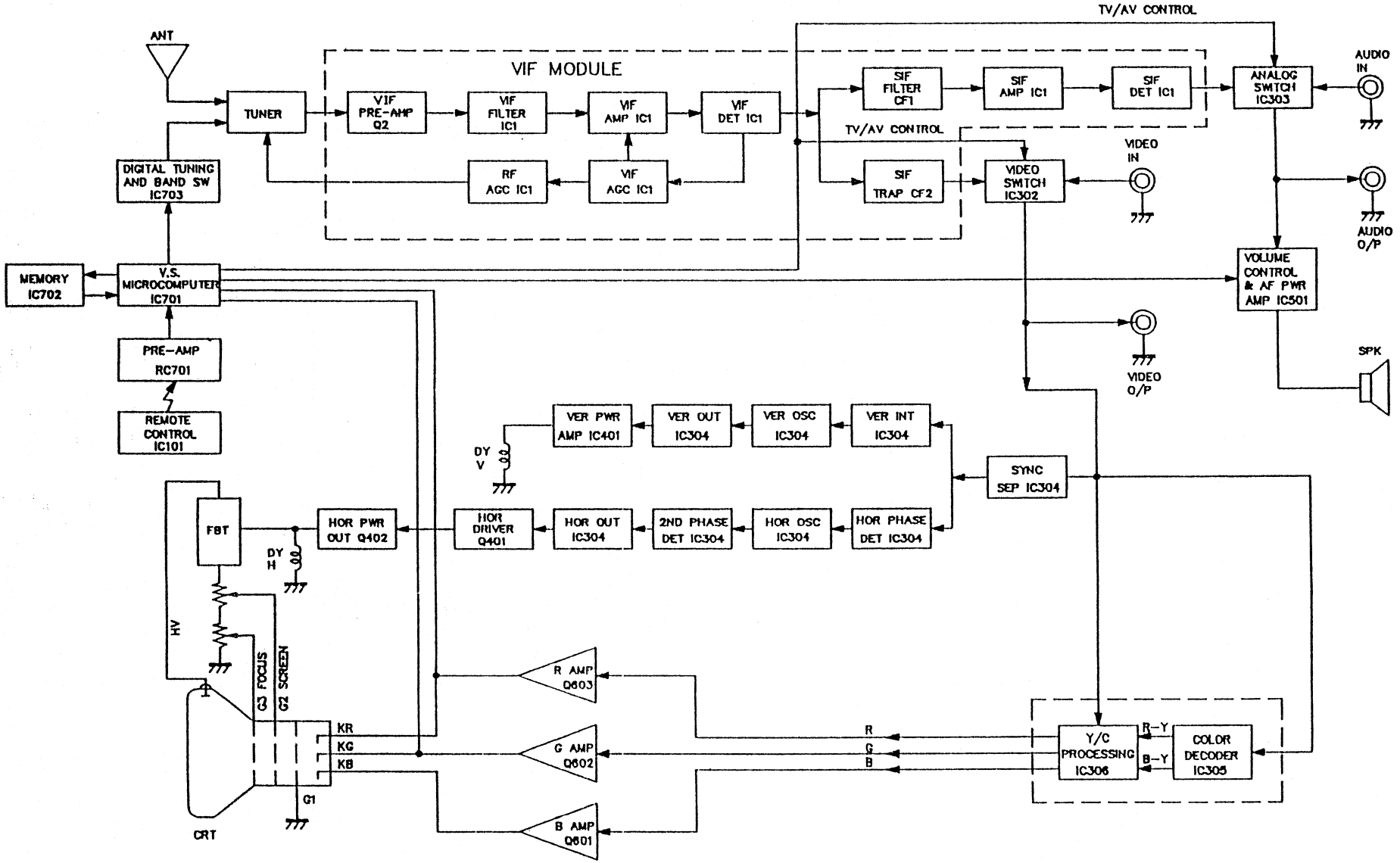
## CTV-260RM

**(ohne Schaltnetzteil)**



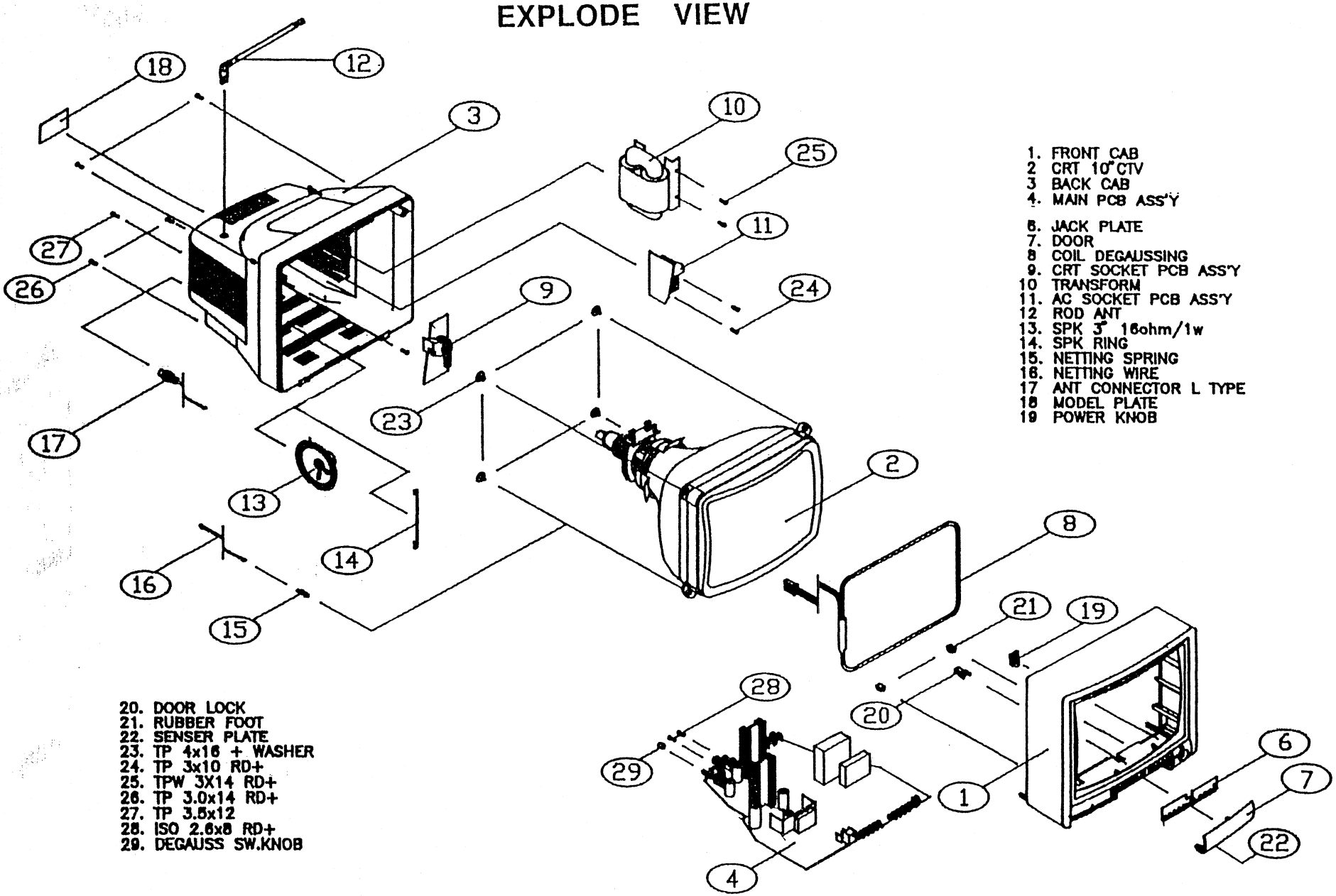
INTERVISION

# BLOCK DIAGRAM




310B/BF

# EXPLODE VIEW

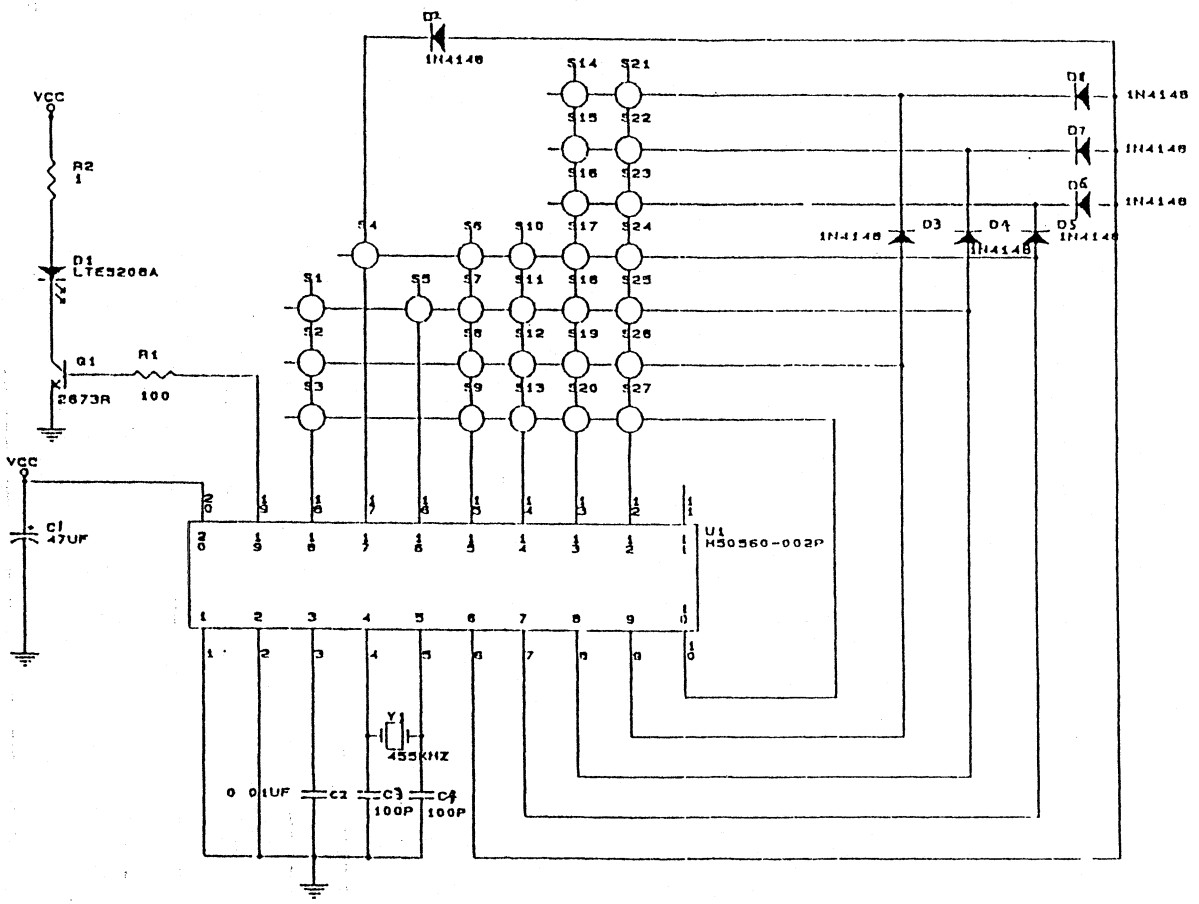



1. FRONT CAB
2 CRT 10"CTV
3 BACK CAB
4. MAIN PCB ASS'Y
5. JACK PLATE
7. DOOR
8 COIL DEGAUSSING
9. CRT SOCKET PCB ASS'Y
10 TRANSFORM
11. AC SOCKET PCB ASS'Y
12 ROD ANT
13. SPK 3" 16ohm/1w
14. SPK RING
15. NETTING SPRING
16. NETTING WIRE
17 ANT CONNECTOR L TYPE
18 MODEL PLATE
19 POWER KNOB

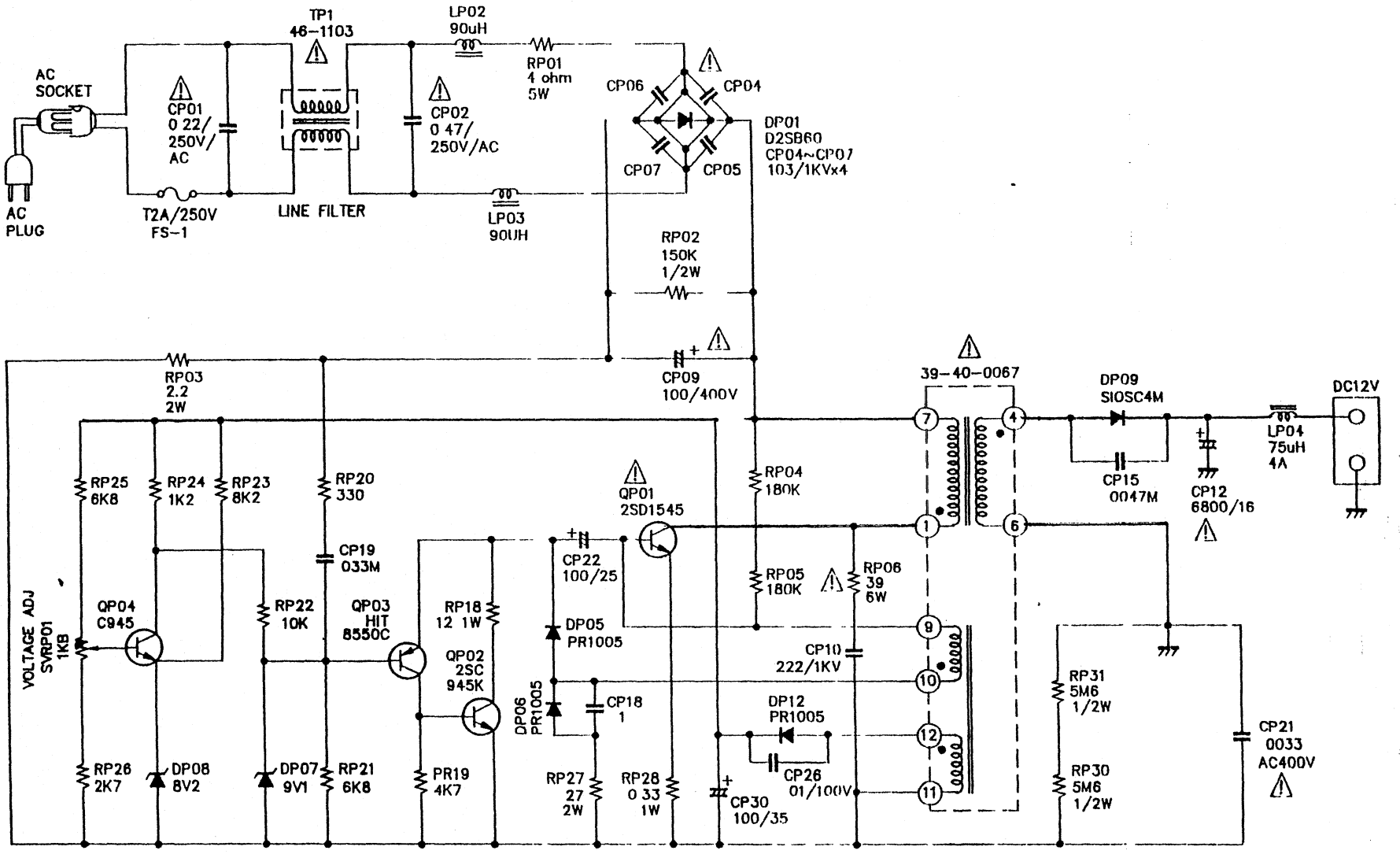
20. DOOR LOCK
21. RUBBER FOOT
22. SENSER PLATE
23. TP 4x16 + WASHER
24. TP 3x10 RD+
25. TPW 3X14 RD+
26. TP 3.0x14 RD+
27. TP 3.5x12
28. ISO 2.6x8 RD+
29. DEGAUSS SW.KNOB

310 BF

# REMOTE CONTROL SCHEMATIC DIAGRAM




| NO | FUNCTION |
|---|---|
| 1 | CH UP |
| 2 | CH DOWN |
| 3 | VOL UP |
| 4 | VOL DOWN |
| 5 | MUTE |
| 6 | SLEEP |
| 7 | TV/AV |
| 8 | ON/OFF |
| 9 | RECALL |
| 10 | 1 |
| 11 | 2 |
| 12 | 3 |
| 13 | 4 |
| 14 | MIN |
| 15 | HOUR |
| 16 | AUTO/ON |
| 17 | 5 |
| 18 | 6 |
| 19 | 7 |
| 20 | 8 |
| 21 | ANA (-) |
| 22 | ANA (+) |
| 23 | ANA SEL |
| 24 | 9 |
| 25 | 10 |
| 26 | 11 |
| 27 | 12 |

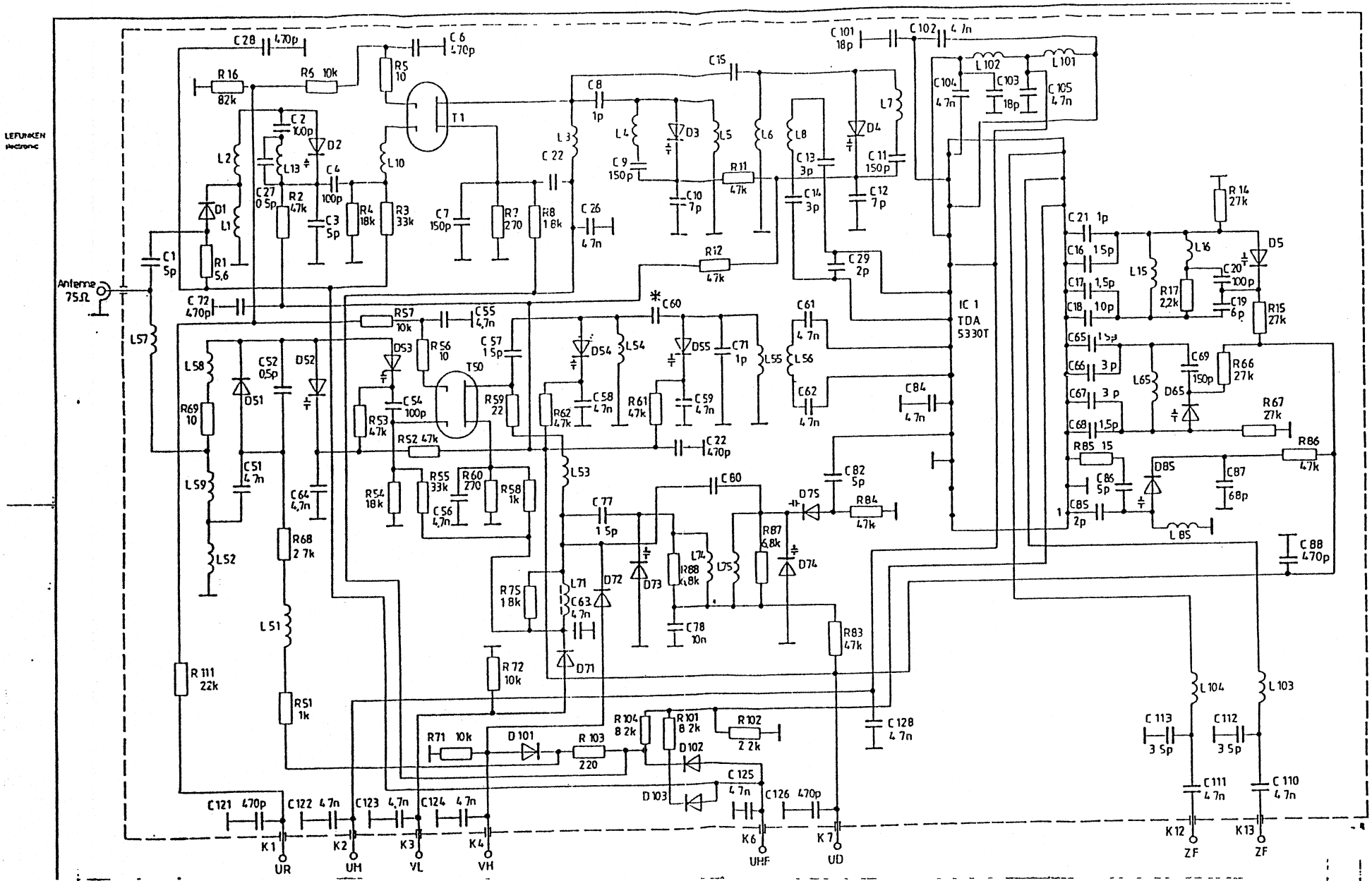



| SUBFIX | MOD RECORD |
|---|---|
| AA | 1994/04/07 |
| AB | |
| AC | |
| AD | |
| AE | |

ACTION ELECTRONIS CO., LTD
億聲電子股份有限公司

TITLE: CTV-310 SWITCH POWER SCHEMATIC DIAGRAM

| DRAWER | DESIGN | APPROVED | DRAWING NO | REV |
|---|---|---|---|---|
| 謝文娟 04/07/'94 | | | 05-G1-1321 | 0 SH4 |


LEFUNKEN
electronic
Antenne 75Ω
C1 5p
R1 5,6
L1
D1
L2
C2 100p
L13
D2
C27 0,5p
R2 47k
C4 100p
C3 5p
R4 18k
R3 33k
R5 10
C6 470p
R16 82k
R6 10k
C28 470p
T1
L10
C7 150p
R7 270
R8 18k
C22
L3
C8 1p
C26 4,7n
L4
D3
L5
C9 150p
C10 7p
R11 47k
L6
C15
L8
C13 3p
C14 3p
D4
L7
C11 150p
C12 7p
C29 2p
R12 47k
C101 18p
C102 4,7n
L102
L101
C104 4,7n
C103 18p
C105 4,7n
IC 1
TDA
5330T
C21 1p
C16 1,5p
C17 1,5p
C18 10p
L15
L16
R14 27k
R17 2,2k
D5
C20 100p
C19 6p
R15 27k
C65 1,5p
C66 3p
C67 3p
C68 1,5p
L65
C69 150p
R66 27k
D65
R67 27k
R85 15
R86 47k
D85
C86 5p
C85 2p
C87 68p
L85
C88 470p
C72 470p
R57 10k
C55 4,7n
L57
L58
R69 10
C52 0,5p
D52
D51
C51 4,7n
L59
L52
C64 4,7n
R68 2,7k
L51
R111 22k
RS1 1k
D53
R56 10
C57 1,5p
T50
C54 100p
R53 47k
RS2 47k
R59 22
R54 18k
R55 33k
R60 270
C56 4,7n
R58 1k
L53
C60
D54
L54
D55
C71 1p
L55
C61 4,7n
L56
C62 4,7n
C58 4,7n
R61 47k
C59 4,7n
R62 47k
C84 4,7n
C22 470p
C82 5p
C77 1,5p
D75
R84 47k
R87 6,8k
D74
D73
L74
R88 6,8k
L75
L71
D72
C63 4,7n
R75 18k
D71
C78 10n
R72 10k
R83 47k
C128 4,7n
R71 10k
D101
R103 220
R104 8,2k
R101 8,2k
D102
R102 2,2k
D103
C125 4,7n
C126 470p
C121 470p
C122 4,7n
C123 4,7n
C124 4,7n
K1
K2
K3
K4
K6
K7
UR
UH
VL
VH
UHF
UD
L104
L103
C113 3,5p
C112 3,5p
C111 4,7n
C110 4,7n
K12
K13
ZF
ZF

| REVISION | 0 |
|---|---|

ACTION ELECTRONICS CO.. LTD
TV ELECTRICAL SPECIFICATION

MODEL NO: CTV-310B/BH OUTPUT: 50mV DATE 80/09/12
SUPPLY VOLTAGE AC 230V/50HZ LOAD : 16 ohm TEST:
GERERAL INFORMATION - TV 75 OHM INPUT ANT SIFE VOLTAGE 0 dB =1uV



| DESCRITION | | UNIT | LIMIT | NOMINAL | NO.1 | NO.2 | NO.3 | NO.4 | NO.5 | NO.6 |
|---|---|---|---|---|---|---|---|---|---|---|
| VL BAND | | | | | | | | | | |
| TUNING RANGE | HIGH | MHZ | 62.25 | 65.25 | | | | | | |
| | LOW | MHZ | 48.25 | 45.25 | | | | | | |
| MAX/USABLE SENS | CH - 2 | dB | 32/46 | 26 /40 | / | / | / | / | / | / |
| | CH - 3 | dB | 32/46 | 26 /40 | / | / | / | / | / | / |
| | CH - 4 | dB | 32/46 | 26 /40 | / | / | / | / | / | / |
| IF REJ | CH - 3 | dB | 40 | 50 | | | | | | |
| IMAGE REJ | CH - 3 | dB | 40 | 50 | | | | | | |
| VHF BAND | | | | | | | | | | |
| TUNING RANGE | HIGH | MHZ | 224.25 | 228.00 | | | | | | |
| | LOW | MHZ | 175.25 | 140.00 | | | | | | |
| MAX/USABLE SENS | CH - 5 | dB | 32/46 | 26 /40 | / | / | / | / | / | / |
| | CH - 9 | dB | 32/46 | 26 /40 | / | / | / | / | / | / |
| | CH - 12 | dB | 32/46 | 26 /40 | / | / | / | / | / | / |
| IF REJ | CH - 9 | dB | 50 | 60 | | | | | | |
| IMAGE REJ | CH - 9 | dB | 40 | 50 | | | | | | |
| UHF BAND | | | | | | | | | | |
| TUNING RANGE | HIGH | MHZ | 855.25 | 860.00 | | | | | | |
| | LOW | MHZ | 471.25 | 435.00 | | | | | | |
| MAX/USABLE SENS | CH - 21 | dB | 36/52 | 32 /46 | / | / | / | / | / | / |
| | CH - 30 | dB | 36/52 | 32 /46 | / | / | / | / | / | / |
| | CH - 40 | dB | 36/52 | 32 /46 | / | / | / | / | / | / |
| | CH - 50 | dB | 36/52 | 32 /46 | / | / | / | / | / | / |
| | CH - 60 | dB | 36/52 | 32 /46 | / | / | / | / | / | / |
| IF REJ | CH - 40 | dB | 40 | 50 | | | | | | |
| IMAGE REJ | CH - 40 | dB | 30 | 40 | | | | | | |
| CATV TUNER TYPE | 1.FORWARD | CH | TERE1 | S1->S20 | / | / | / | / | / | / |
| | 2.TELEFUNKEN | CH | 2000KHC | S1->S41 | / | / | / | / | / | / |
| ADJ. PIX. ATT. | | dB | 20 | 30 | | | | | | |
| ADJ. SND. ATT. | | dB | 20 | 30 | | | | | | |
| SELF. SND. ATT. | | dB | 20±6 | | | | | | | |
| CONTRAST RANGE | | dB | 4 | 6 | | | | | | |

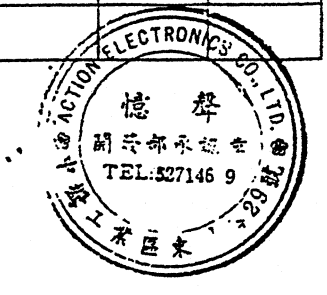
ACTION ELECTRONICS CO., LTD. TEL:

91-91-8003

| REVISION | 0 |
|---|---|



| DESCRITION | UNIT | LIMIT | NOMINAL | NO.1 | NO.2 | NO.3 | NO.4 | NO.5 | NO.6 |
|---|---|---|---|---|---|---|---|---|---|
| SOUND | | | | | | | | | |
| MAX. OUTPUT | mW | 700 | 1000 | | | | | | |
| THD. OUTPUT 10 % | mW | 500 | 700 | | | | | | |
| REF. THD | % | 5 | 3 | | | | | | |
| S /N | dB | 30 | 35 | | | | | | |
| AM SUPP. | dB | 25 | 30 | | | | | | |
| MIN. HUM | mV | 30 | 15 | | | | | | |
| RESPONSE FH 6 KHZ | dB | -3±6 | -3±3 | | | | | | |
| FL 125 HZ | dB | -3±6 | -3±3 | | | | | | |
| SIF. FREQ. ERROR | KHZ | ±100 | 0 | | | | | | |
| LIMIT SENS. | dB | 80 | 70 | | | | | | |
| PICTURE | | | | | | | | | |
| HOR . FREQ | HZ | ±500 | 15625 | | | | | | |
| HOR. PULL-IN + | HZ | 300 | 600 | | | | | | |
| _ | HZ | 300 | 600 | | | | | | |
| LINEARITY VERT. | % | 15 | 10 | | | | | | |
| HOR. | % | 25 | 15 | | | | | | |
| PINCUSHION DIST. | % | 2 | 1 | | | | | | |
| BARREL DIST. | % | 2 | 1 | | | | | | |
| KEYSTANE DIST. | % | 2 | 1 | | | | | | |
| V /H RATIO | % | 100±5 | 100% | | | | | | |
| LUMINANCE MAX | lux | 200 | 250 | | | | | | |
| MIN | lux | 50 | 30 | | | | | | |
| VA TEST | | | | | | | | | |
| H. V. MAX | KV | 17.5±0.5 | 17.5 | | | | | | |
| H. V. MIN | KV | 16.5±0.5 | 16.5 | | | | | | |
| REG. VOLTAGE | V | 10.8±0.5 | 10.8 | | | | | | |
| DELAY AGC. VOLTAGE | V | 5±0.5 | 5 | | | | | | |
| REG. RIPPLE VOLTAGE | mV | 30 | 15 | | | | | | |
| DC CONSUMPTION | W | 36 | 33 | | | | | | |
| AC CONSUMPTION | W | 65 | 59 | | | | | | |



# ALIGNMENT PROCEDURE

REGULATOR ADJUSTMENT

1.CONNECT TV UNIT TO DC 12V-14V POWER SUPPLY & TEST PATTERN GENERATOR.

2.CONNECT A DC DIGITAL VOLTMETER OR OTHER PRECISION ACCURARY VOLTMETER TO THE COLLECTOR OF THE REQULATOR OUTPUT TRANSISTOR Q201 (OR ANY 10.8 VOLT POINT OR TP1).

3.ADJUST HORIZONTAL HOLD SVR302 UNTIL THE PICTURE HOLD IN SYNC.

4.VERTICAL HIGHTNESS ALIGNMENT
ADJUST THE VERTICAL HIGHTNESS SVR401 ENABLE THE CIRCLE OF PICTURE APPROACH TO CIRCLE.

5.HORIZONTALL POSITION ALIGNMENT
ADJUST HORIZONTAL POSITION SVR301, LET THE SQUARE SIGNAL IN THE CENTER OF THE SCREEN.

6.RF AGC ALIGNMENT
ADJUST VIF MODULE AGC CONTROL VR1 AT INPUT SIGNAL INTENSITY 50dB, THE SCREEN COULD LOOKING CLEAR AND 80dB THE SCREEN DON'T INFLECT.

7.WHITE BALANCE ALIGNMENT
ADJUST THE SVR602, SVR601, AT CENTER POSITION, ADJUST SCREEN VR402, LET THE SCREEN WILL BE LITTLE BRIGHTNESS. ADJUST SVR602 LET THE SCREEN TO BE YELLOW, AND THEN ADJUST SVR601 LET THE SCREEN APPROACH TO WHITE

8.FOCUS ADJUSTMENT
ADJUST FOCUS VR401 LET THE STRIP LINE ON THE SCREEN TO BE CLEAR.

GENERAL ALIGNMENT INSTRUCTIONS

1. VIDEO IF ALIGNMENT

TEST EQUIPMENT CONNECTION (SEE FIGURE)

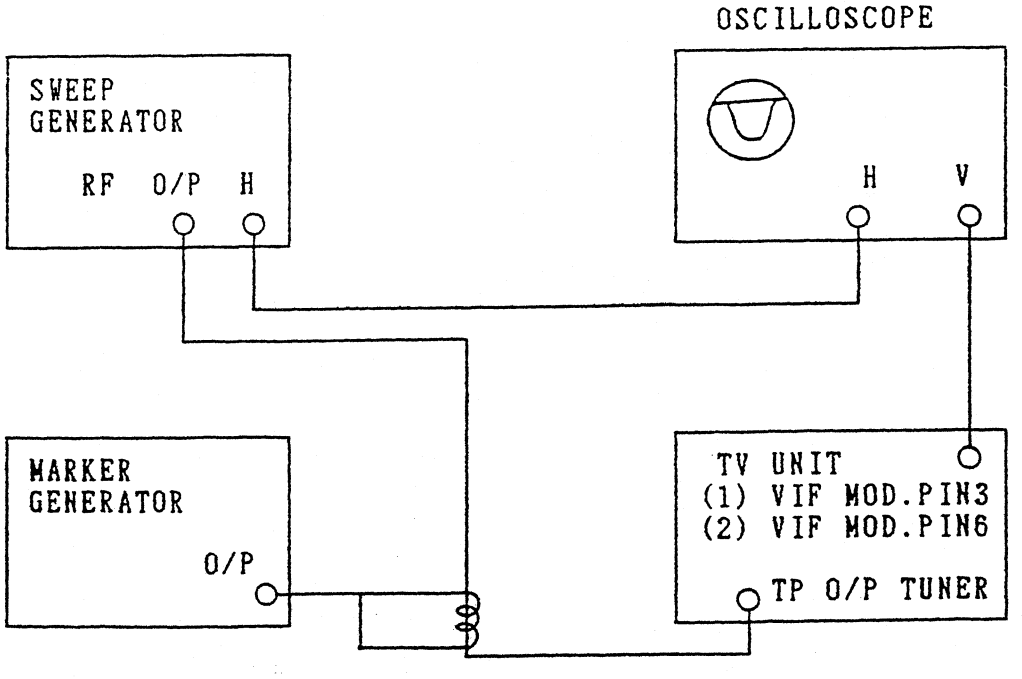
OSCILLOSCOPE: CONNECT TO (1) VIF MOD. PIN3
(2) VIF MOD. PIN6

SWEEP GENERATOR: CONNECT THROUGH A MATCHING PAD TO TEST POINT (T.P) OF THE TUNER.

MARKER GENERATOR: COUPLE LOOSELY TO THE OUTPUT CABLE OF SWEEP GENERATOR.

DC SUPPLY. ADD DC +12V AT DC JACK.

| ADJUST SWEEP GENERATOR TO LOWEST SIGNAL LEVEL CONSISTENT WITH USABLE | | | |
|---|---|---|---|
| STEP | SWEEP FREQUENCY | MARKER FREQUENCY | REMARK |
| (1) ADJUST VIF MOD. T2 FOR MARKER POINT MAXIMUM. | 30-50 MHZ FOR NTSC 65MHZ FOR JAPAN ). 25-45MHZ FOR CCIR. | SYSTEM B,G,H, 36.7MHZ SYSTEM I 37.3 MHZ, SYSTEM M,N 44MHZ (57MHZ FOR JAPAN) (34.7MHZ FOR AUSTRARIA SYSTEM) | PARENTHESIS FOR EXCE-PTION. |
| (2) ADJUST VIF MOD T3 FOR MARKER POINT CENTER | 30-50 MHZ FOR NTSC 65HZ FOR JAPAN). 25-45MHZ FOR CCIR | SYSTEM B,C,G,H, 36.7MHZ SYSTEM I 37.3 MHZ, SYSTEM M,N 44MHZ (57MHZ FOR JAPAN) (34.7MHZ FOR AUSTRARIA SYSTEM) | IN THE PARENTHESIS FOR AFC CORRECTION |




VIDEO IF ALIGNMENT CONNECTING FIGURE

2. SOUND IF ALIGNMENT

TEST EQUIPMENT CONNECTION

SIGNAL GENERATOR: CONNECT TO TEST POINT (T.P) OF THE TUNER THROUGH A MATCHING PAD.

OSCILLOSCOPE: CONNECT TO THE VIF MOD. PIN2.

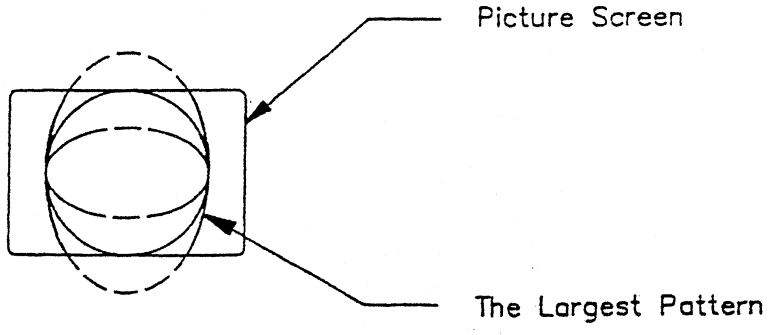
ALIGNMENT PROCEDURE

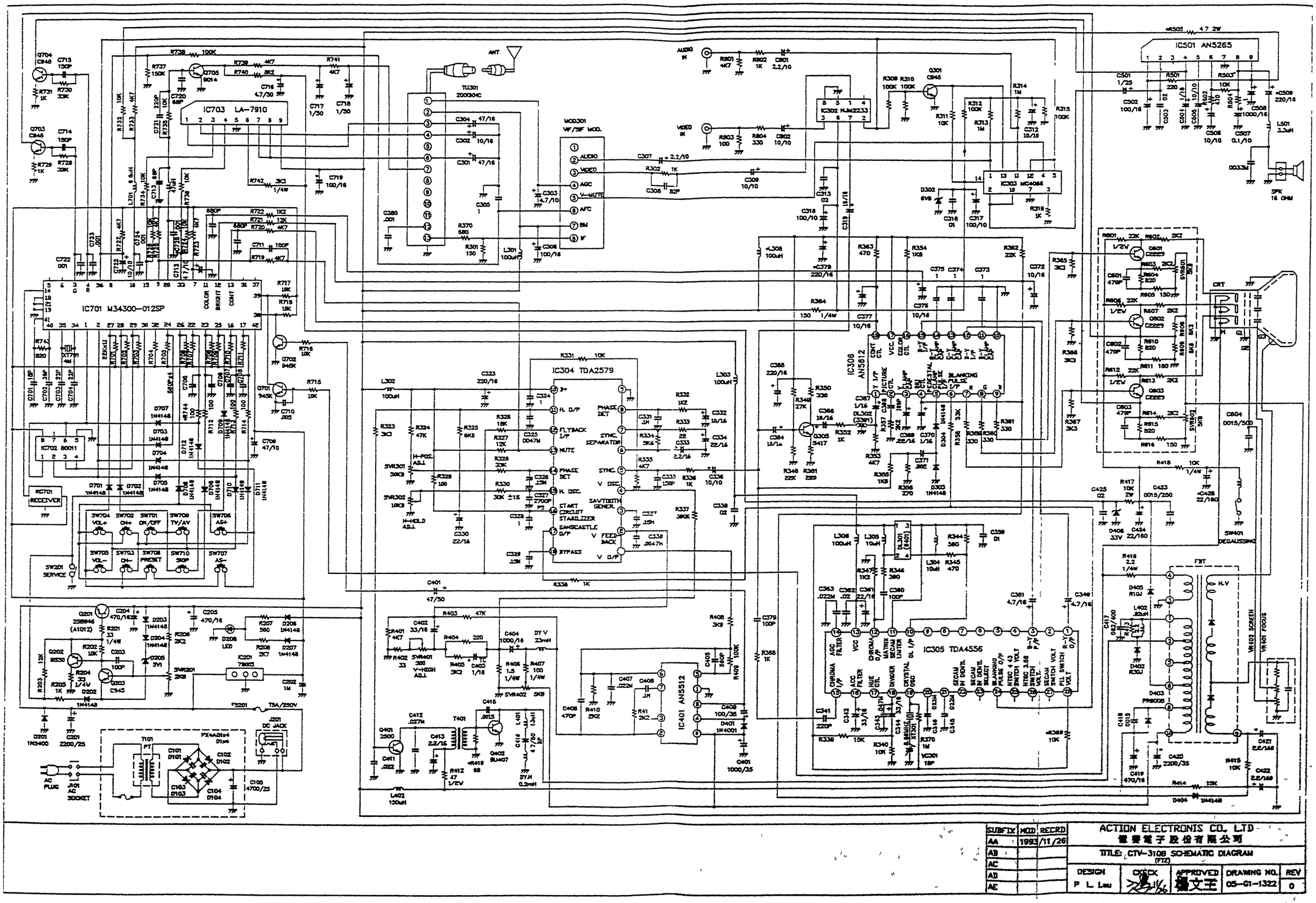
| STEP | GENERATOR | SCOPE | ADJUST | REMARKS |
|---|---|---|---|---|
| ADJUST VIF MOD. T1 | SYSTEM B,G,H 33.4MHZ,SYSTEM M,N 41.25MHZ, SYSTEM I 33.5MHZ SYSTEM D,K, 32.4MHZ @1KHZ FM MOD DEVIATION 25KHZ 80DB OUTPUT. | CONNECT TO THE VIF MOD. PIN2 | T1 | ADJUST T1 SO THE SIGNAL OF 1 KHZ ON SCOPE TO BE MAX. |

VERTICAL DEFLECTION ALIGNMENT

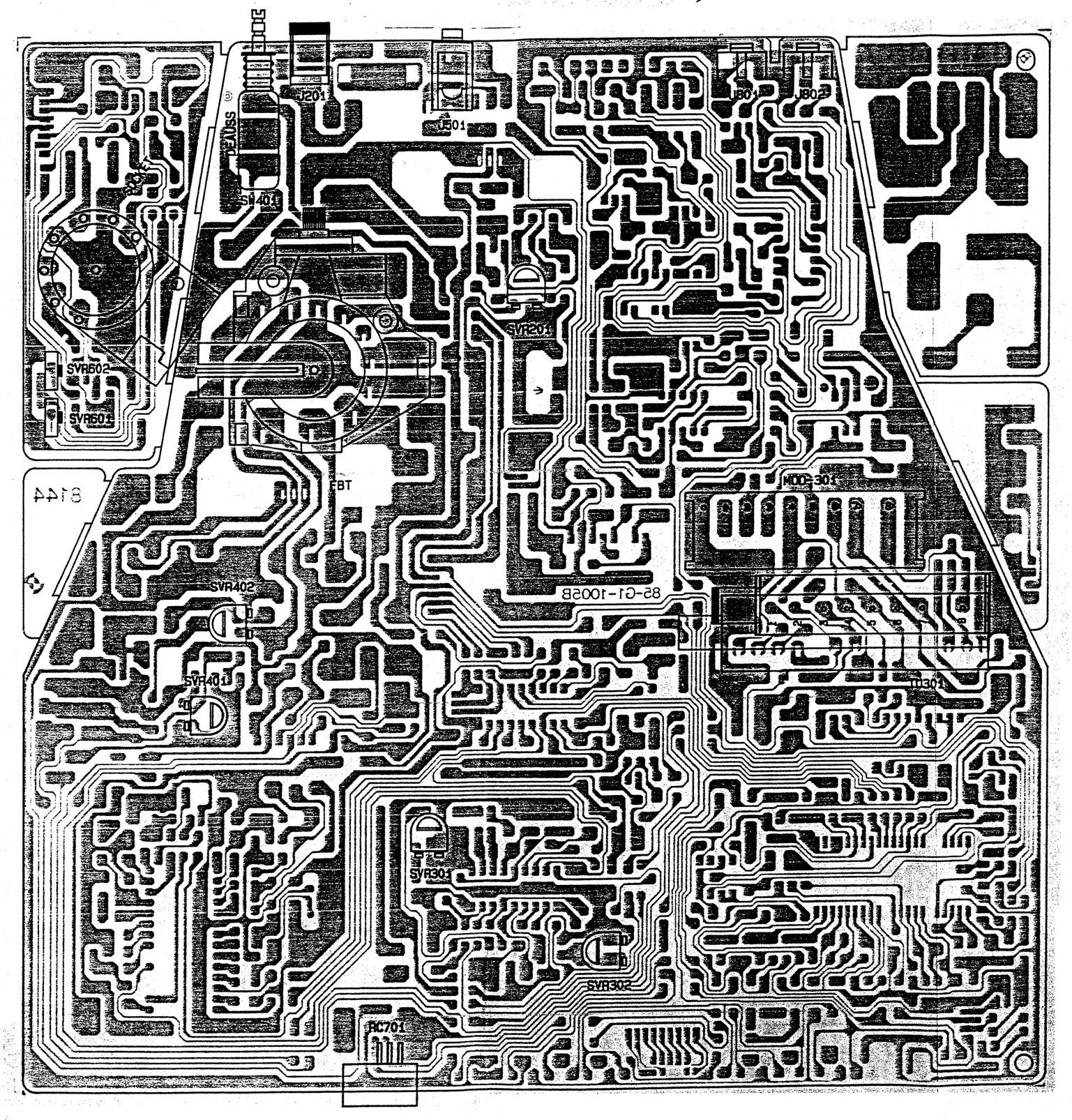
(1) TUNE THE RECEIVER IN A TEST PATTERN.

(2) ADJUST V-SIZE CONTROL SV401 TO MAKE THE INSIDE OF THE LARGEST CIRCLE OF TEST PATTERN REACHES NEAR ROUND PATTERN. (SEE THE FIGURE)




IC703 LA-7910
IC701 M34300-012SP
IC304 TDA2579
IC305 TDA4556
IC306 AN5612
IC401 AN5512
IC501 AN5265
IC302 NJM2233
IC303 MC4066
IC702 80011
IC201 78M05
TU301 2000SHC
WOD301 VIF/SIF MOD.
AUDIO IN
VIDEO IN
ANT
CRT
SPK 16 OHM
DEGAUSSING
FBT
H.V
VR102 SCREEN
VR101 FOCUS
RC701 RECEIVER
SW201 SERVICE
AC PLUG
AC SOCKET
DC JACK
SUBFIX
MOD
RECRD
AA
AB
AC
AD
AE
1993/11/26
ACTION ELECTRONIS CO., LTD
TITLE: CTV-3108 SCHEMATIC DIAGRAM
DESIGN
CHECK
APPROVED
DRAWING NO.
REV
P L Lau
05-G1-1322
0
SH2

# CHASSIS ALIGNMENT POINTS




CTV – 3101/B

## MAIN P.C.B. TOP VIEW